UBEES:

UTAH BUILDING ENERGY EFFICIENCY STRATEGIES

Prosperity through high performance building strategies

MISSION

Governors three E's: Energy, Economy, and Education is in line with UBEES Mission:

Create the market & workforce to position Utah at the forefront for social & economic prosperity through leadership in high performance homes & buildings

VISION

- Through the advancement of high performance building strategies, play a significant role in meeting Utah's energy efficiency and renewable energy goals:
  - Improving energy efficiency 20% by 2015 (2005 baseline), and
  - Providing 20% of Utah's energy from renewable sources by 2025.

High Performance Buildings

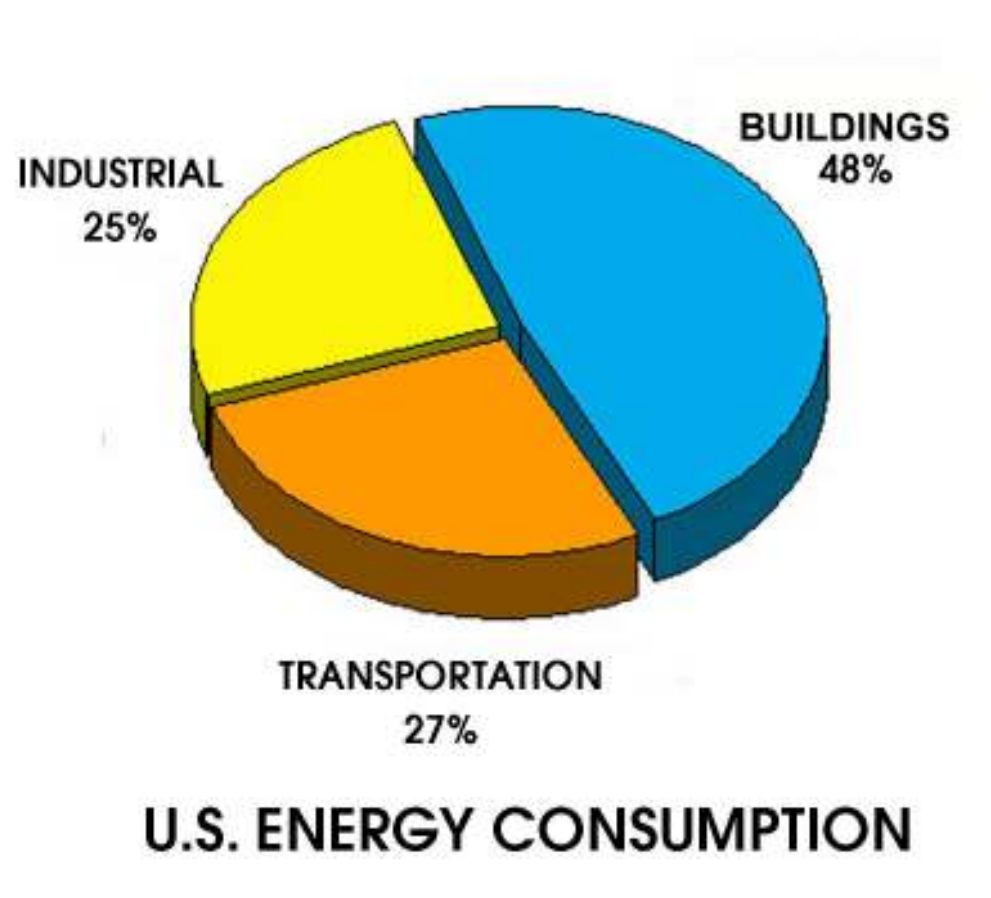
Homes and commercial buildings that use less energy, provide optimal comfort, and reduce energy costs through:

- Building design, construction, operation and maintenance, energy management, and re-commissioning.
- Generate on-site energy through small-scale renewable energy systems.

POTENTIAL

- In 2030 75% of all buildings will be new or retrofitted (Architecture2030.org)
- This presents a tremendous opportunity for energy and cost savings through high performance building
- What does this mean for Utah?

Building Efficiency: An Opportunity We Can't Miss



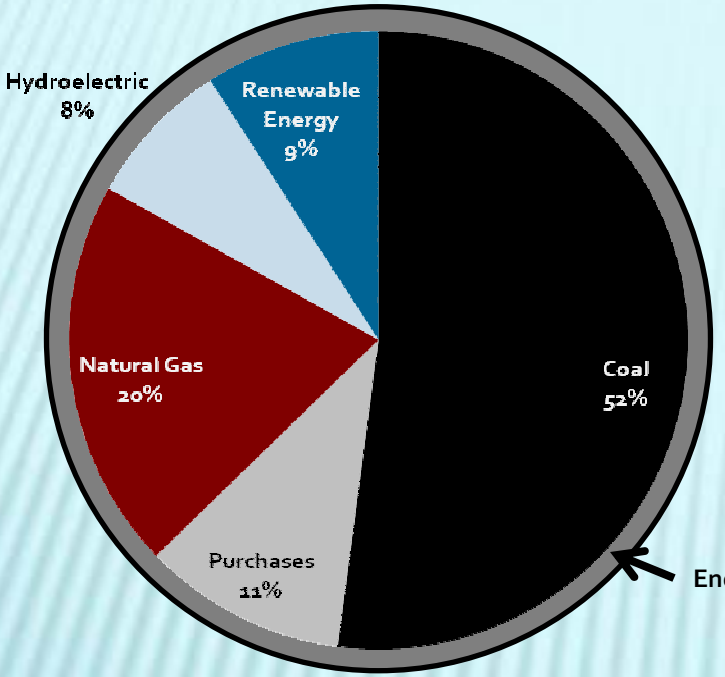
By 2030:

75% of the building and home sq. ft. will either be new or retrofitted.
(Architecture 2030)

Source: Energy Information Administration Statistics (Architecture 2030)

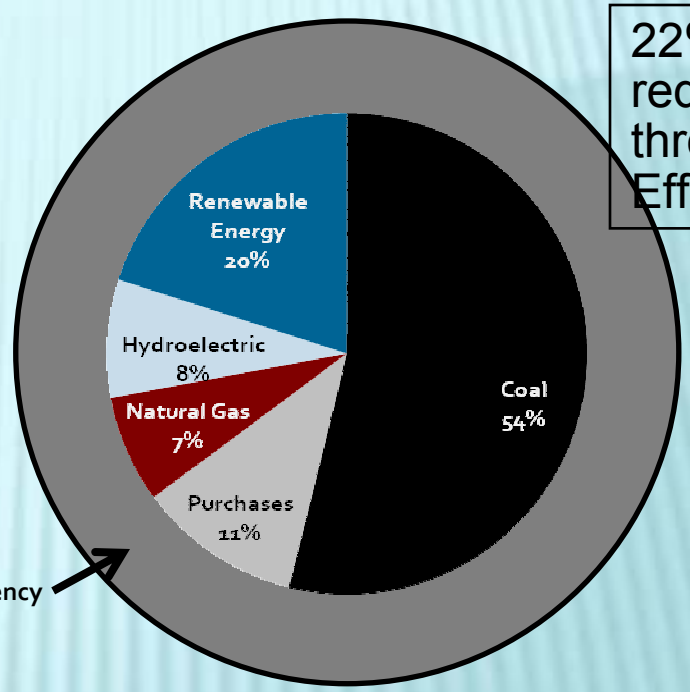
A Utah 2020 Electricity Example

Reference Scenario Electricity Mix



Supply-side Electricity: 38,285 GWh
Energy Efficiency: 2,886 GWh
Total Electricity: 41,171 GWh

20% Clean Energy Scenario Electricity Mix



22% reduction through Efficiency

Energy Efficiency

Supply-side Electricity: 29,817 GWh
Energy Efficiency: 11,354 GWh
Total Electricity: 41,171 GWh

Case Studies

- COMMERCIAL
- RESIDENTIAL DEVELOPMENTS

Moroni Feed Company

- Moroni, Sanpete County
- Computer control system and new large condenser
- Used Rocky Mountain Power FinAnswer program
- Project costs after incentives: $231,890
- Annual energy savings: 2,133,434 kWh
- Annual cost savings: $78,937
- Project payback in under three years

Photo Courtesy Rocky Mountain Power

Albertsons Stores & Distribution Center

- Statewide, 36 stores
- Refrigeration and lighting upgrades
- Used Rocky Mountain Power FinAnswer program
- Average store costs after incentives: $86,641
- Annual energy savings for all stores: 9,368,570 kWh
- Average store annual energy savings: 260,238 kWh
- Total energy savings for refrigeration was 64%, and for lighting was 36%.
- Project payback in 3.5 years

- North Ogden, Weber County
- Refrigeration and lighting upgrades
- Used Rocky Mountain Power FinAnswer program
- Received about 40% of the project cost in incentives
- Annual energy savings for all stores: 5,861,148 kWh
- Project payback in 3.3 years

Photo Courtesy ETC Group

Energy Star Portfolio

Logan Single-family rental project

- 54 three-bedroom units
- Projected Monthly Costs - $99.00 (unit)
- Actual Monthly Costs - $91.00 (unit)
- Actual results show 8% lower cost than expected

Production Homes with Solar PV as Standard Feature (Garbett Homes – Daybreak)

POTENTIAL

- 8.4 GW in 2020
  - 6 GW is for buildings
- 32 average-sized power plants in 2020
  - 23 for electricity demand from buildings

STRATEGIES

- State “lead by example” and share best practice guidelines with public and private sectors
- Measure and benchmark energy consumption and savings in state, municipal and private sector buildings
- Create partnerships and collaborate with key parties
- Energy code research and compliance strategies
- Build a robust energy workforce to meet Utah’s growing energy efficiency needs

UBEES CORE TEAM

- Division of Facilities and Construction Management
- Governor's Office of Economic Development
- Staff of Governor's Energy Advisor
- State Energy Program
- Utah Clean Energy